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Expanding Preservation Resources

The Corps of Practitioners and the Core of Knowledge

Recently a small sampling of libraries was asked to comment on a proposal for a preservation information service, which would aggressively disseminate publications and new information about procedures and techniques. One library's response was brief and blunt: "What we need is a corps of practitioners, not more articles!" Another suggested that the availability of information about preservation was no longer the issue, arguing that in fact "sometimes I think we have so much information that we are paralyzed from effective action."

Since a significant proportion of my professional energies has been devoted to the dissemination of "more articles" on the topic of preservation, these cold assertions took me rather by surprise. Defensively, I mentally rehearsed all the arguments supporting the need for accurate, current information to support decision-making and shape procedures in day-to-day preservation program operation; reviewed the ample evidence that staff in numerous libraries know nothing—have never read a single article—about preservation; and reaffirmed my conviction that progress depends on making preservation information as widespread within the profession as information about cataloging or reference.

But as I thought more about it, I came to the conclusion that the critics offered a valuable insight: true though it is that preservation information is still scarce, scattered, primitive, and often inaccurate, the creation of a comprehensive data base on the topic cannot by itself solve the preservation problems of the nation's libraries and archives. Information is valuable only when put to use. Information is a tool, but people do the work. Though the distinction may appear academic, to focus on developing informed people, instead of focusing on information, is an important step

in improving our collective ability to respond to urgent preservation needs.

With that distinction in mind, I will describe several current projects and programs which aim to develop informed people, and speculate about some future possibilities.

ARL/OMS Preservation Project

To begin with the one I know best, the Preservation Planning Project of the Association of Research Libraries' Office of Management Studies (ARL/OMS), with which I have been involved since July 1980, is a one-time project aimed at putting "self-help" tools into the hands of people responsible for developing preservation programs. This project is a direct outgrowth of the Collection Analysis Project—CAP—which the Office of Management Studies developed several years ago. CAP studies enable a library to examine a wide range of factors affecting the nature, growth and use of its collections. One of those factors is preservation, and a number of libraries were able to take their first serious look at preservation needs and possibilities in the course of conducting a collection analysis self-study. While the importance of viewing preservation in the context of overall collection development and management cannot be overemphasized, it was apparent that the topic is broad and complex enough to merit the more extensive attention possible through a self-study focused exclusively on preservation. Thus the current project was generously supported by the National Endowment for the Humanities, to design, test and make widely available a preservation self-study process.

The project has both short- and long-term products. Early in the grant period, the OMS conducted a SPEC survey on preservation. (SPEC is the Systems & Procedures Exchange Clearinghouse, a service of OMS whereby ARL member libraries share in-house documents and report on local activities. SPEC surveys are a speedy way to pool information on specific topics of current interest.) While the ultimate purpose of this particular survey was to gather data for use in designing the preservation self-study, there were three immediate byproducts, the SPEC Kit/Flyer packages on *Planning for Preservation*, *Preparing for Emergencies and Disasters*, and *Basic Preservation Procedures*.¹ Distributed to ARL members, several hundred regular subscribers, and dozens of institutions here and abroad who have ordered individual copies, the SPEC kits offered a glimpse of preservation administration as it is actually being practiced in major libraries today, with policy statements and descriptions of procedures which can serve as models for adapting to many other library situations.

The kits were an early bonus, a way to give people something to work with right away while we were developing more extensive and systematic

tools. That work is now in its final phase, and will result in two complementary products. The first is an assisted self-study manual, the *Preservation Planning Program*,² which sounds a bit intimidating but is simply a set of instructions for conducting a systematic examination of a library's preservation needs and developing a plan for responding to them. The second is a compilation of technical information, drawn from a wide variety of sources, which serves both to educate those staff members conducting the self-study and to guide subsequent implementation of the plan.

How the Self-Study Works

The self-study process, which has been tested in three different library settings during the past year, involves a team of four to seven library staff members in a careful investigation of the library's preservation situation. The study team is assisted by a consultant, who provides orientation to the subject of preservation and to the techniques of the study itself, makes periodic visits to work with the team and its task forces, is available throughout the study for advice about problems which may arise, and provides an outsider's perspective on the findings and plans.

The process begins with a review of the library itself—the history and nature of its collections and users as these affect the condition of its materials and its responsibility for maintaining them. During this first phase the study team also informs itself about basic preservation issues, through reading and exploring in a preliminary way the history of preservation activities within the local library and in the profession. Major external factors likely to affect plans for future development—building plans, cooperative relationships, and steadily mounting financial pressures—are also identified. With this preparation, the study team prepares a background paper, setting forth the scope and priorities for the second phase of the self-study.

Task forces are then appointed, chaired by members of the study team but bringing into the study process as many as twenty-five additional staff members for an intensive information-gathering effort. Five major areas are examined. The first is the physical environment affecting materials in the collections, which is studied by assembling data on the nature of facilities and spaces throughout the library and by monitoring temperature, humidity and light levels in representative spaces. This task force prepares a report on present conditions with recommendations for ongoing monitoring to identify seasonal problems and patterns, and for various short-term and long-range measures for upgrading the environment.

The second task force studies the physical condition of the collections themselves. This is a major topic addressed through development of an

inventory of the physical types of materials held throughout the system, and by sampling the condition of representative items from the major categories identified in the inventory. This process lays the foundation for the body of statistical and evaluative data which must be accumulated over a more extended period in order to shape preservation program priorities and justify the reallocation of funds that will be essential to support expanded preservation programs.

The third area is that of the library's preparedness for accidents and disasters affecting the collections. This task force looks at facilities, geography, climate, and the history of previous disasters in order to assess the library's current vulnerability; identifies areas in which preventative measures ought to be taken; and prepares a preliminary "disaster plan" for coping with emergencies which might threaten the collections.

The fourth area of study, sometimes handled by a task force and sometimes by the study team itself, is that of the organizational factors and current procedures which affect the physical condition of materials. This involves identifying preservation activities, often disguised under other names, which are already going on throughout the library—processing, binding, handling, repair, replacement; codifying whatever policies may exist which influence those activities; beginning the arduous task of identifying the current level of preservation-related expenditures. Analysis of this data leads to recommendations for developing comprehensive policies, improving procedures, realigning operations in order to coordinate decision-making, and making preservation a conscious, integral function within the library's ongoing operations.

The fifth area I like to think of as identifying opportunities rather than needs, and serves as a good antidote to the often depressing findings of the other task forces. It is an analysis of the resources which might be employed in an expanded preservation program, resources which are available in-house, on the campus, in the community, in the region, and "out there." The task force develops an inventory of people, products, services, and literature which might be useful in staff training and patron education programs, decision-making about policies, treatment procedures, and supply budget allocations. It assembles the beginnings of a resource file, and develops recommendations for maintaining, updating and making use of these resources in a library-wide preservation program.

In the final phase, the study team takes the work of the task forces and puts it all together, beginning with a description of the current situation which identifies major problem areas, causes, and potential solutions. It then develops a phased plan for responding to preservation needs, a step-by-step process whereby the library can move toward the creation of a comprehensive preservation program within a three- to five-year period. Although the self-study encourages some dreaming about an ideal pro-

gram, in order to establish long-term goals and bring home the magnitude of the preservation responsibility, the emphasis is on realism: what can be done this year, with existing resources, to improve what we are now doing to materials in our care, and what can be done to increase the resources available in the next few years in order to bring our ability to care for our materials into appropriate balance with needs? The plan, with all its supporting documentation, is then presented to the library administration as the final report of the self-study.

Is It Worth It?

What are the results of such a process? Is it worth all the effort? The effort is very substantial. In the three pilot test libraries, which were asked to keep careful records throughout the study, total hours averaged more than a year of cumulative staff time during the four- to seven-month process. Even with the streamlining that has resulted from the pilot test experience, the commitment of staff time will be a major one for any library undertaking the complete study. Is it worth it? Is it necessary? Wouldn't it be easier to assign one person to the planning job? Couldn't he or she develop a plan for preservation if given a whole year to do it, without disrupting the working lives of two dozen people and the functions of the two dozen units which must do without them while they're off on "that damned preservation study?"

Only libraries which have gone through the process can give you a final answer—their final answer—to such questions. My own response harks back to the question of information *v.* informed people. The preservation study is based on a fundamental assumption that a library can change its way of operating—in this case to improve its care for materials in its collections—only when the people who carry out those operations change their attitudes, broaden their understanding, and expand their knowledge and skills. A formal self-study helps this happen. Involving a broad cross section of the staff in the study not only feeds into it a wealth of experience and knowledge of local library operations that no single individual could possess, but also serves to create within the library a pool of staff members who have been exposed to preservation issues, who have become aware of local preservation needs and resources, who can immediately take back into their daily work a new preservation awareness.

Preservation is not solely the domain of a few specialists, but a job for all of us. A "preserving attitude" on the part of every staff member is essential if the institution as a whole is to come to terms with the awful pressure of deterioration threatening the collections we have spent so much time and money to acquire, organize, and service. In the absence of this attitude, damaging practices will continue. But send a dozen or twenty

or thirty people back to the front lines after an intensive period of learning about the threats to their collections and I guarantee you the library will never be quite the same again. Even if the institution can't afford to implement all the recommendations, even if the administration loses its nerve and puts the study report on a back shelf to deteriorate along with the rest of the collections, even if the plan itself was so poorly put together that it deserves to disappear without a trace—even then, the materials in the collections will have a better chance for survival. An informed staff is worth infinitely more than all the information compiled in a report, or neatly filed in a cabinet marked "preservation." The Preservation Planning Program can be an effective step in developing that informed staff.

Society of American Archivists' (SAA) Basic Archival Conservation Program

Another approach is currently underway in the archival field. Also funded by the National Endowment for the Humanities, the Basic Archival Conservation Program of the Society of American Archivists is conducting a series of workshops on conservation theory and practice which will reach, over a two-year period, some 350 staff members in archival institutions throughout the country. Workshop materials will eventually be combined into a manual of practice and procedure for use in further staff training and improvement of conservation-related activities.

Coupled with this grassroots educational effort is a consultant program which provides on-site evaluation of conditions and offers recommendations for basic improvements. This subsidized service will be available to fifty or sixty archives during the grant period, and is particularly useful for small institutions lacking the staff to undertake an extensive self-study.

Regional Programs

Regional programs such as the Northeast Document Conservation Center, the Western Conservation Congress, and the Illinois Cooperative Conservation Project—about which Carolyn Morrow will be speaking—also perform important educational functions, not only providing information in response to specific problems but also advising on the interpretation and application of that information, offering workshops or serving as a meeting ground on which staff from many institutions can gather to share and learn from each other. Through these contacts, and through participation in professional associations such as the American Library Association, the Society of American Archivists, and the American Institute for Conservation, librarians and archivists with preservation

responsibilities are building personal networks, creating the invisible college through which we all continue our professional development after we leave school. It's a ragged, patchwork affair yet, with some groups and areas of the country doing rather well while others must go long distances for information and support. But the outlines have been sketched and the patterns—good, effective patterns of communication and accumulating knowledge—are becoming discernible.

Academic Avenues

We are playing a catch-up game, most of us, for our formal professional education took place before the preservation threat was fully recognized, before the development of practical mechanisms for applying the emerging body of theory about causes and cures. Our teachers could not teach us much about preservation because there wasn't much to teach. The new generation is more fortunate. Most library schools now include preservation in the master's curriculum, if not as a separate course, at least in connection with the study of collection management or processing. Students emerging from the good schools are now familiar with the issues, the problems, the terminology, and will thus bring that all-important preservation awareness into their new positions. The growth of such basic educational opportunities is clearly reflected in the *Preservation Education Directory*³ produced by ALA's Preservation of Library Materials Section, which has grown in five years from a one-page flyer to a 33-page booklet.

But for those wishing to devote careers to the preservation of library materials, the preparatory path has been a rather rocky one, since there have been no academic programs or formal credentials. Some conservators—those skilled craftsmen/scientists who treat deteriorated materials in the workshop or laboratory—learned their craft through long apprenticeships, the quality of their preparation therefore depending heavily on the knowledge and skills of their masters, some excellent but some, inevitably, not so good. Others came into library conservation through a side door, via graduate-level museum conservation training programs. The first of these, at New York University's Institute of Fine Arts, was established in 1960. It has since been joined by three others in North America: at the State University College at Oneonta, in conjunction with the New York State Historical Society, known as the Cooperstown Program (begun in 1970); at the University of Delaware in conjunction with the Winterthur Museum (begun in 1974); and at Queens University in Kingston, Ontario (also begun in 1974). Although they all focus on art and museum objects, several graduates who have concentrated on paper or photographic conservation have migrated to the library world.

Library preservation administrators—librarians responsible for the full range of activities including processing, binding, replacement, and brittle books programs for whole collections in addition to the laboratory treatment performed by conservators—have had an even more haphazard preparation. Thus far they have been largely self-taught, learning on the job and through whatever reading and workshop experience they could find, picking each other's brains at meetings and through informal professional contacts. Successful as such measures have been in bringing us to the present stage of development, they are by no means adequate to produce the "corps of practitioners" needed to direct programs in libraries throughout the country.

The Columbia Program

And so it is good news indeed that two graduate programs, one for library conservators and one for preservation administrators, have now begun. With generous start-up funding, chiefly from the National Endowment for the Humanities and the Andrew W. Mellon Foundation, and with assistance from the Carnegie Corporation, the Morgan Guaranty Trust Company, and the H.W. Wilson Foundation, the programs are offered by the School of Library Service at Columbia University in cooperation with the New York University (NYU) museum conservation training program. The conservator program, which began with four full-time students in September 1981 and will expand to a maximum of six, is a three-year course, including two years of course work and intensive laboratory practice followed by a year of supervised internship in a recognized conservation laboratory—a melding of the book-learning and apprenticeship approaches developed successfully by the museum training programs. On successful completion of the course of study, students will receive a master's degree from the library school, and a certificate in library conservation issued jointly by Columbia and the NYU Conservation Center, and will be prepared for beginning positions as professional conservators.

The preservation administration program may be done in two ways, as a one-year advanced certificate by practicing librarians, or as a two-year combined program leading to the library degree and an advanced certificate. The curriculum is packed with the theory and practice of preservation, in addition to study of general librarianship, the history of books and printing, the nature and care of materials, and library administration, and it includes a laboratory component which provides in-depth exposure to the materials and techniques of physical treatment. The administrator students will not become mini-conservators; they will not receive the heavy doses of conservation science, paper chemistry, and lengthy supervised bench practice necessary for those who provide extensive sophisticated

treatment for a wide range of materials. But they will learn to establish and train staff for routine binding and mending operations, to analyze and improve procedures for handling and storage, to coordinate decision-making and large-scale systems for the care, repair or replacement of all materials in a library's collections. The first four administrator students completed the certificate program in May 1982.

A Core for the Corps

The foregoing suggests that we have some cause for confidence: the "corps of practitioners" will expand to meet the expanding personnel requirements in the field of preservation. But just what is it that these people are going to practice? Have we a body of theory and practice adequate to meet the complex demands of salvaging massive quantities of rotting materials? To put it bluntly, the core of preservation knowledge is still very small and primitive, and our research and development needs are correspondingly large and sophisticated. Given the distinction between information and informed people, and the mechanisms by which the former is put to use by the latter, let me now identify those areas which seem to me most sorely in need of development, and the approaches to each that appear most promising at this time.

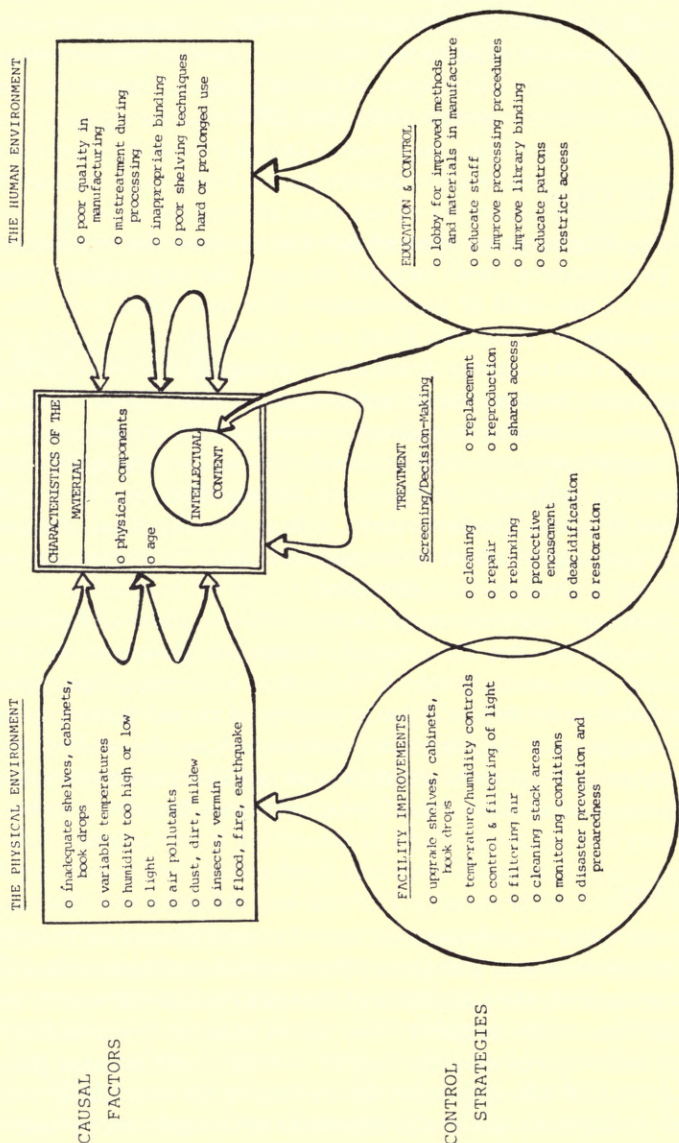
As a framework for these projections, I'd like to share with you a study model developed for the Preservation Planning Program. Its graphic representation appears in figure 1.⁴ Though its aesthetic proportions may leave something to be desired, the grouping of causal factors, potential control strategies, and the interrelationships among them all does prove useful in analyzing the present situation and trying to figure out what to do about it. For a review of the basic facts, see figure 1.

Causal Factors

There are three interdependent sets of causal factors contributing to the preservation problem. The first of these arise from characteristics of the materials themselves, the physical and chemical natures of which are, as a general rule, inherently unstable. The rate of natural deterioration varies widely, and each type of material has its own life cycle, its own pattern of responding to and reacting with its environment over time, which is established by the basic molecular character of its components and by the mechanics of its physical structure.

Directly related to the internal characteristics affecting the life of materials are the external factors which constitute the basic physical environment. The temperature, humidity, light, and chemical components of the atmosphere surrounding any object, and the structures which contain

PRESERVATION STUDY MODEL



from PRESERVATION PLANNING PROGRAM: AN ASSISTED SELF-STUDY MANUAL, by Pamela W. Darling and Duane E. Webster. Washington, D.C. Association of Research Libraries, Office of Management Studies. Unpublished pilot project draft, Spring 1981, p.18. Final version to be published Spring 1982.

or support it, all influence both the rate and type of deterioration of that object. Changes in temperature and light—two different forms of energy—control the speed at which chemical reactions take place; the chemical nature of the materials themselves and the substances surrounding them define the type of reaction.

The third set of causal factors, also external to the object, is found in the nature of handling and use—binding or packaging techniques, shelving procedures, processing and circulation practices, and the way staff and patrons handle materials. Some effects are chemical, but most effects are physical, that is, they affect the external structure of an object rather than its chemical nature. The susceptibility of materials to this kind of damage depends upon both the internal and environmental factors. For example, paper embrittled through chemical reaction will shatter at a touch; a tight adhesive binding can split when opened under hot, dry conditions; film softened and stretched through prolonged exposure to a projection lamp may be wound too tightly, splitting as it cools and contracts.

The interrelationships among all three sets of factors are complex, and the knowledge that nothing is immortal can lead to an attitude of hopeless helplessness. However, an understanding of the chemical and physical causes of deterioration and of the influence which the material and human environments have on the natural aging processes can point to methods of care which significantly extend the life of library materials.

Control Strategies

Like the causes, the strategies for controlling the preservation problem fall into three related groups. In response to the physical and chemical characteristics of the materials, there are a variety of treatment possibilities which will halt or at least retard further deterioration and may undo some damage. These include cleaning, minor repair, binding and rebinding, deacidification, protective wrapping, and major restoration. In some cases of severe deterioration, physical treatment may be impractical or economically unjustifiable although the intellectual content of the material warrants continued access. For such items, several possibilities exist for preserving content, through replacement, reproduction in a variety of formats and media, or through securing access to duplicates held elsewhere. Decision-making and provision of treatment are individual, item-by-item functions. Though guidelines and treatment routines for categories of materials may lend efficiency to the operation, the unit costs, in both time and materials, are high. The development of mass deacidification procedures, though vital for the stabilization of paper-based records, will by no means control all the factors affecting the survival of library materials.

Unlike physical treatment, the other two sets of preservation strategies can have a beneficial effect on large numbers of materials at once. Changes in the physical environment can prolong the life of all materials stored and used within that space. Such changes might include enhanced temperature and humidity control, filtering of air and light sources, cleaning, improvement of shelf and cabinet arrangements, redesigning book return structures, and upgrading materials used for storage folders and boxes. Though the total cost for major environmental improvements appears high, the unit cost for prolonging the life of each affected item is quite low. Given the accelerated rate of deterioration in an uncontrolled environment together with the high unit cost of physical treatment, these strategies offer cost-effective insurance that many materials will not be totally lost before individual attention can be given to them.

There are, in addition, several methods for limiting the human potential for damaging materials, through lobbying for better methods and materials in the manufacture of books and other media (especially supporting use of the paper specifications recently developed by the Committee on Production Guidelines for Book Longevity⁵), through staff education and training, improvement of binding and processing procedures, patron awareness programs, and restricting access to some materials.

Development Needs

If this analysis is reasonably accurate, it follows that we've got at least two dozen complementary activities to develop and promote. I'll say no more about most of them, but three taken together, may help us cope with the most perplexing aspect of the preservation problem: the sheer magnitude of the numbers of deteriorated materials.

Environmental control is perhaps the most urgent. Technically, we are well on the way to understanding what the environment ought to be, and how to keep it that way, in order to insure maximum survival for various types of materials. National standards exist for the proper storage of many photographic and magnetic media, and the American National Standards Institute has just established a Z-39 subcommittee to develop such a standard for paper-based records. Climate control systems—knowingly referred to by some as “HVAC” for “heating, ventilating, and air conditioning”—are becoming increasingly sophisticated. The technology already exists to create a life-sustaining mini-environment under the most adverse conditions, at the bottom of the sea or in outer space, so it must be technically feasible to control the many mini-environments in which library materials are housed. The technology is there, but two more ingredients are needed if it is to be used: (1) effective operational models and systems for applying the technology to the variable conditions that exist in

a thousand storage spaces, and (2) money. Two examples will illustrate the research and development activities that I believe may bring the ingredients together.

First, adequate control of complex library environments must be based on data derived from regular monitoring of several factors in many locations. During the pilot testing of the Preservation Planning Program at the University of Washington in 1981, the environmental task force took some preliminary steps toward accumulating and manipulating such information by processing its findings through a simple data base management system on a microcomputer. As microcomputers become ever smaller, smarter, and cheaper, it ought to be possible to expand this approach, creating library-oriented environmental control software that would swiftly identify problem spaces and patterns of conditions, and pinpoint the most significant variables in particular areas. Microprocessor links between monitoring devices and climate control equipment could extend the familiar thermostat principle to regulate a variety of environment conditions automatically, on a continuous basis.

Second, consider the relationship between environmental conditions and the rates of deterioration for different sorts of materials. We have a handy rule of thumb which says that the rate doubles with every 10°C increase in temperature. But how might we apply this rule to create accurate projections of the cost in lost materials over x period of time at one temperature level or another? Careful sampling procedures might provide a profile of the deterioration rates for various categories of materials in a particular collection. Further testing could enable us to quantify the effects on those rates of altering this or that environmental factor. Price indexes for replacements and treatment cost figures could be combined on the financial side of the equation. With such information it ought to be possible to develop a formula for comparing the cost of controlling the environment with the price of failing to control it. There are many variables; I'd hate to have to do it on an abacus, or even this year's pocket calculator. But the new high technology office toys seem made for such a game, and the rewards of winning could be very great indeed.

From Universal Bibliographic Control (UBC) to Universal Preservation

Another area in which I see exciting development possibilities also relates to the alluring new information technologies. The capture, compact storage, and retrieval of massive quantities of sound, graphic images, and textual data appears to be moving swiftly out of the realm of science fiction. The Cataloging Distribution Service of the Library of Congress, working in cooperation with the research arm of Xerox, has equipment now in place for transferring the entire stock of 5.5 million pre-MARC

printed catalog cards onto two dozen LP-size optical discs. The capture device "reads" the image by scanning at very high speed, converting what it "sees" into electronic impulses related to precise coordinates on a sliced-up grid containing 480 lines-per-inch. (Standards for high-quality micro-filming call for a resolution of 120 lines-per-inch. Television operates on a similar grid of about 120 lines-per-inch, so this new process can record four times the detail of the clearest television picture you've seen.) As the image is "digitized," the term for this electronic encoding, it is first recorded on a conventional magnetic disc, the "slices" lined up end-to-end. Access points or indexing tags—the LC card number, for example—are added to the string of slices for each image, and this composite data is then "written," or etched, by laser onto a thin film of metal sandwiched between two layers of glass.

Copies of this master optical disc can then be "read" by converting the codes back into an image viewed on a screen or printed as a high-quality facsimile reproduction. This process can even record and reproduce color, in a manner analagous to the three-color separation technique used in conventional photography. There are implications for interlibrary loan, for remote access in multiple locations, and for publishing. There are also remarkable preservation possibilities. The technology is there for a completely new approach to salvaging the intellectual content of deteriorated material, until now accomplished chiefly through microfilming. But technology is not enough; again, it must be employed within a well-designed system, and supported by apparently enormous sums of money. How to bring these pieces together?

To answer this question we must first look at the third topic that I believe to be crucial for the development of effective large-scale preservation programs—the bibliographic structure. If you've ever dealt with preservation filming or brittle books replacement programs you know how important bibliographic control is, and how painfully inadequate our present systems are for such work. Intelligent decision-making about preservation treatment or replacement alternatives depends upon speedy, comprehensive access to current data about the existence and condition of other copies or related editions. Today's data base is far from comprehensive; it is not current; and access to its scattered components, manual and automated, is slow and cumbersome. Although computer-based catalogs lend plausibility to the librarian's dream of Universal Bibliographic Control, and optical disc storage technology stimulates an even shinier vision of Universal Textual Preservation, years of hard, painstaking work are necessary if we are to reach such goals. It does no good to store tons of information in a machine unless you can get it out again when you need it. Intricate layers of file structures, indexes, registers, and links must be carefully put together if the terminal screen is to do its magic when I push

the buttons. These systems are already being created. If they are to support collection management and preservation activities in addition to acquisitions, cataloging, and reference services, the designers need to know what kinds of special information each record might need to contain, and how it will be manipulated in carrying out those activities.

Recently, the Research Libraries Group (RLG) Preservation Committee tried to spell out exactly these design requirements in recommending enhancements to the RLIN (Research Libraries Information Network) data base. The final document deals exclusively with bibliographic support for preservation microfilming activities, and will certainly be of tremendous value as RLG, LC, OCLC, and the rest work more and more closely in building a national information network. But the committee had to abandon its original plan which was to have encompassed condition statements and preservation treatment reports as well as microform information. The reason for this, I believe, is that we have not yet figured out how to systematize the processes of evaluating condition and deciding on appropriate treatment. We must do that if we are to develop affordable programs for either mass treatment or electronic storage.

We must develop uniform condition descriptors, a common terminology for categories of treatment, and shared sets of criteria for screening materials and sending them down this or that path to restoration, format conversion or oblivion. To avoid wasteful duplication of effort on some things while others vanish for lack of attention, we must divide up the universe and assign primary responsibility for preserving chunks of it to many different libraries. RLG is struggling toward this; the Association of Research Libraries is beginning to consider it; some informal agreements exist within regional systems and arise from *de facto* recognition that *x* collection is simply the best that there is on the topic. But it's all pretty primitive, and we run the risk of being lulled into complacency by scattered reports that this group or that is working on the problem. Much fundamental thinking remains to be done, followed by much cooperative design, testing and redesign, in order to develop a practical system for employing both automated bibliographic control and compact text storage technologies in the service of preservation.

And so the final challenge is that of coordinating our efforts, sharing developments fully and swiftly so that we may build on each other's work, keeping always in mind the ultimate goal even as our attention is devoted to perfecting one small component. To that end we must nourish and invigorate our communications networks, so that time spent in one place to assemble the information needed for a particular preservation activity need not be duplicated in another. The widening gap between institutions

with established preservation programs and those with none must be closed, for all must participate in making the fundamental decisions that will shape the nation's preservation programs.

Having come full circle, let me close by reiterating the importance of collecting and aggressively disseminating information about preservation at all levels of the profession. As individuals we have an obligation to share our own theoretical insights and practical discoveries with our colleagues through speaking, writing, and the informal contact that takes place during professional meetings, workshops, and conferences such as this. Our institutions must be active in reporting local preservation efforts, and quick to take advantage of information developed by others. Our systems and networks and consortia must work together to keep us well-informed, so that the corps of practitioners and the core of knowledge may grow together.

NOTES

1. Association of Research Libraries. Office of Management Studies. *Planning for Preservation* (SPEC Kit #66). Washington, D.C.: ARL, July/Aug. 1980; _____. *Preparing for Emergencies & Disasters* (SPEC Kit #69). Washington, D.C.: ARL, Nov./Dec. 1980; and _____. *Basic Preservation Procedures* (SPEC Kit #70). Washington, D.C.: ARL, Jan. 1981.

2. Darling, Pamela W., and Webster, Duane E. *Preservation Planning Program: An Assisted Self-Study Manual for Libraries*. Washington, D.C.: ARL, 1982; and Darling, Pamela W. comp. *Preservation Planning Program: Resource Notebook*. Washington, D.C.: Association of Research Libraries, 1982.

3. American Library Association. Resources and Technical Services Division. *Preservation Education Directory: Educational Opportunities in the Preservation of Library Materials, 1981*, edited by Susan G. Swartzburg and Susan B. White. Chicago: ALA, 1981.

4. Darling, and Webster, *Preservation Planning Program*, pp. 16-20.

5. Council on Library Resources. The Committee on Production Guidelines for Book Longevity. "Interim Report on Book Paper." Washington, D.C.: CLR, 1981. See also "Making Books Last." *Publishers Weekly* 219(29 May 1981):19-22.

DISCUSSION

Unidentified Speaker: What kind of statistics are available about how many items are being preserved?

Pamela Darling: There is nothing systematic available yet. There are a number of reasons for that, one of them being that we do not yet have that shared set of descriptions of treatments or shared understandings of what constitutes preservation. There is a lot of preservation going on in a lot of libraries that don't know they have a preservation program. The single

thing that you can get statistics on for practically everyone is commercial binding, because we've been set up for years to count that, but most other things are not reported separately. In fact, in most places, there is not a separate count even kept for replacement when it is done for preservation purposes. It is simply buried in the acquisitions statistics somewhere.

David Farrell (Indiana University, Bloomington): What is being done about the special problems connected with the preservation of East Asian materials?

Darling: I probably can't say very much because I don't know a great deal about it. I think that there are problems with format and there are problems, obviously, with bibliographic control since most of the materials are not included in the regular bibliographic systems at present.

I am not aware of any *unique* problems about East Asian materials but that doesn't mean there aren't some. If you're talking the Orient, that is one thing; if you're talking about Southeast Asian, that's another. There are certain areas of the world where we all know that the quality of the paper is just really "the pits." There is very little that can be done to keep those things going more than ten to fifteen years, so that there are probably large categories of publications from certain areas, or at least certain types of publications from those areas, which, like newspapers, we will have to convert to some other form before we even add them to the collection because they won't last.

Roberta L. Hudson (R.B. Hayes Preservation Center, Fremont, Ohio): Is there a way to adapt the preservation and planning program self-study process to a small staff?

Darling: It is clearly designed for the larger institutions. I believe it would be possible, however, to take the principles that are involved, and the general procedures, and to cut the thing back in some of its detail. I would have to think about it to tell you exactly how it would be done, but I do think that the basic process, the elements of things that are to be examined and the process for analyzing the information you have and working toward a phased plan, are quite applicable to any kind of institution.

Gerald Gibson (Library of Congress, Washington, D.C.): I don't believe that there is presently a screen capable of showing the resolutions required for reading of the optical disc material.

Darling: The screen will only show, I think, a quarter of the resolution that is actually stored in the machine. There simply are not available now the cathode ray tubes, or whatever they are, that have that kind of refinement. The significance about the resolution capability from our point of view is not really so much what we see on the screen but the fact that the information is stored to that level of detail and it's stored in electronic and digitized

form so that, even though it begins to degrade, it can be restored perfectly, because all the machine knows is “on” or “off” in this particular little tiny, teeny spot on this page. Is or is there not a mark? And so it’s just on-off; it’s a blip or it isn’t, and that blip can degrade considerably before it disappears altogether so that you can go back and reconstruct the record in a way that is completely different from the possibilities that we’ve had, for example, when a microform begins to fade or lose its image.

Gibson: You have to produce a hard copy to read it. At present, it doesn’t have the resolution that people will accept.

Darling: I think again a lot of it depends on the type of material that you’re talking about. There’s a lot of basic textual data that is perfectly acceptable at the lower levels, but on the other hand there are certain kinds of things where you absolutely must have that additional thing, and so we will have to be clever and smart about deciding which are the areas to concentrate on first. I don’t know what the likelihood is of the screening capability coming up to the ability of the disc storage in ten years or so. I suppose they can develop that, but, in the meantime, we can begin with something like LC cards which are an obvious and excellent application for the current abilities of the machine. There are a lot of exciting possibilities, but we need to be careful in not getting so carried away by some dazzling dream of preserving everything that we lose sight of the immediate requirements of our work.